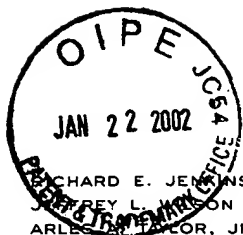


01-24-02

0300



RICHARD E. JENKINS  
JENNIFER L. WILSON  
ARLENE J. TAYLOR, JR.

DAVID P. GLOEKLER  
GREGORY A. HUNT  
JOHN A. LAMERDIN, Ph.D.  
E. ERIC MILLS  
JULIE A. BROADUS, Ph.D. (PATENT AGENT)  
OF COUNSEL:  
JENNIFER L. SKORD

# JENKINS & WILSON, P.A.

PATENT ATTORNEYS  
SUITE 1400 UNIVERSITY TOWER  
3100 TOWER BOULEVARD  
DURHAM, NORTH CAROLINA 27707

TELEPHONE (919) 493-8000  
FACSIMILE (919) 419-0383

WEBSITE  
JENKINSANDWILSON.COM

## RALEIGH OFFICE

NCSU CENTENNIAL CAMPUS  
VENTURE II SUITE 400  
920 MAIN CAMPUS DRIVE  
RALEIGH, NORTH CAROLINA 27606

TELEPHONE (919) 424-3710  
FACSIMILE (919) 424-3711

January 22, 2002

"Express Mail" mailing number: EV023030535US

Date of Deposit 1/22/02

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to the Commissioner of Patent and Trademarks, Washington, D.C.

Gwynette L. Moore

*Gwynette L. Moore*

U.S. Patent and Trademark Office  
BOX SEQUENCE  
P.O. Box 2327  
Arlington, Virginia 22202

Re: U.S. Patent Application Serial No. 09/954,773 for SOYBEAN SUDDEN DEATH SYNDROME RESISTANT SOYBEANS, SOYBEAN CYST NEMATODE RESISTANT SOYBEANS AND METHODS OF BREEDING AND IDENTIFYING RESISTANT PLANTS  
Our File No. 1268/2/2

Sir:

Please find enclosed the following:

1. A Response to Notice to Comply with Requirements for Patent Applications Containing Nucleotide and/or Sequence Disclosures and Related Amendment (2 pages);
2. Substitute Sequence Listing in paper (15 pages) and computer readable form;
3. Statement That Sequence Listing and Computer Readable Copy are the Same;
4. Copy of Notice to Comply with Requirements for Patent Applications Containing Nucleotide and/or Sequence Disclosures and Related Amendment and Raw Sequence Listing Data Report; and
5. A return-receipt postcard to be returned to our offices with the U.S. Patent and Trademark filing stamp thereon.

Commissioner for Patents  
January 22, 2002  
Page 2

Please contact our offices if there are any questions.

Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any deficiencies of payment associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS & WILSON, P.A.



Arles A. Taylor, Jr.  
Registration No. 39,395  
Customer No. Bar Code Label:

AAT/ajm

Enclosures



25297

PATENT TRADEMARK OFFICE



"Express Mail" mailing number: EV023030535US  
Date of Deposit: / /  
I hereby certify that this paper and all papers and fees referred  
to herein are being deposited with the United States Postal  
Service "Express Mail Post Office to Addressee" service under  
7 C.F.R. 1.10 on the date indicated above and is addressed to the  
Commissioner for Patents, Washington, D.C. 20231

Gwynette L. Moore

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Lightfoot et al.

Group Art Unit: 1638

**Serial No.: 09/954,773**

Examiner: M. Kimball

Filed: September 18, 2001

Docket No.: 1268/2/2

For: SOYBEAN SUDDEN DEATH SYNDROME RESISTANT SOYBEANS,  
SOYBEAN CYST NEMATODE RESISTANT SOYBEANS AND  
METHODS OF BREEDING AND IDENTIFYING RESISTANT PLANTS

\*\*\*\*\*

RESPONSE TO NOTICE TO COMPLY WITH REQUIREMENTS  
FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE AND/OR  
SEQUENCE DISCLOSURES AND RELATED AMENDMENT

U.S. Patent and Trademark Office  
BOX SEQUENCE  
P.O. Box 2327  
Arlington, Virginia 22202

Sir:

This is responsive to the Notice to Comply dated November 20, 2001,  
having a 2-month term that expires on January 20, 2002. January 20, 2002 is a  
Sunday and Monday, January 21, 2002 is a federal holiday, and thus, the  
deadline is extended to Tuesday, January 22, 2002. A copy of the Notice is  
enclosed. Favorable reconsideration is respectfully requested in view of the  
following Remarks and substitute Sequence Listing submitted under 37 C.F.R.  
§ 1.821-1.825.

AMENDMENTS

Please delete the Sequence Listing on pages 101-110, and replace the  
same with the substitute Sequence Listing attached hereto.

REMARKS

*Status Summary*

A substitute Sequence Listing is enclosed herewith as a paper copy and  
as a computer-readable form (CRF – floppy disk). The contents of the paper

BEST AVAILABLE COPY

and computer readable copies are identical. A statement to the same effect is also enclosed. The substitute Sequence Listing has been amended to explain the use of n residues in the Sequence Listing of the subject application as originally filed. No new matter is introduced in the substitute Sequence Listing.

Thus, applicants believe this Response places the subject application into compliance with the requirements of 37 C.F.R. 1.821-1.825. Applicants respectfully request that the substitute Sequence Listing be entered into the subject application.

DEPOSIT ACCOUNT

Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any deficiencies of payment associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS & WILSON, P.A.

Date: 01-22-2002

By:

Arles A. Taylor, Jr.  
Arles A. Taylor, Jr.  
Registration No. 39,395

Suite 1400 University Tower  
3100 Tower Boulevard  
Durham, North Carolina 27707  
Telephone: (919) 493-8000  
Facsimile: (919) 419-0383

1268/2/2 AAT/JB/ajm

Enclosures:

Substitute paper copy of Sequence Listing (15 pages)  
Statement That Sequence Listing and Computer Readable Copy are the Same  
CRF Sequence Listing (diskette)  
Transmittal letter  
Copy of Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures  
Postcard



25297

PATENT TRADEMARK OFFICE

BEST AVAILABLE COPY



## UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER

09/954,773

FILING/RECEIPT DATE

09/18/2001

FIRST NAMED APPLICANT

David A. Lightfoot

ATTORNEY DOCKET NUMBER

1268/2/2

JAN 22 2002

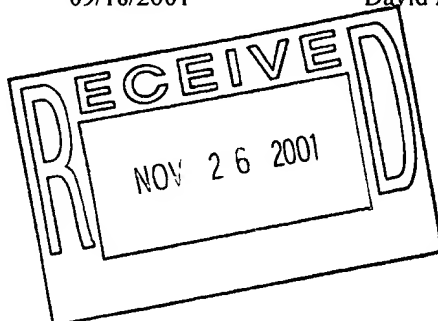
25297

JENKINS &amp; WILSON, PA

1000 TOWER BLVD

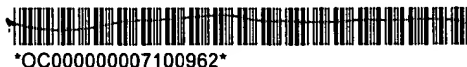
SUITE 1400

DURHAM, NC 27707



CONFIRMATION NO. 8934

FORMALITIES LETTER



\*OC000000007100962\*

Date Mailed: 11/20/2001

### NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

For questions regarding compliance to these requirements, please contact:

- For Rules Interpretation, call (703) 308-4216
- To Purchase PatentIn Software, call (703) 306-2600
- For PatentIn Software Program Help, call (703) 306-4119 or e-mail at patin21help@uspto.gov or patin3help@uspto.gov

*A copy of this notice **MUST** be returned with the reply.*

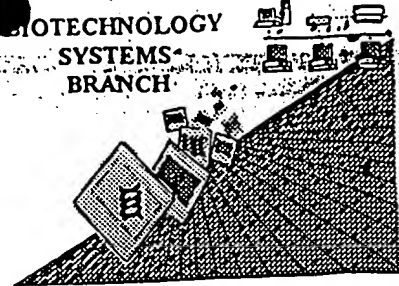
Customer Service Center

Initial Patent Examination Division (703) 308-1202

PART 1 - ATTORNEY/APPLICANT COPY



## RAW SEQUENCE LISTING ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/954773  
Source: OIPE  
Date Processed by STIC: 10/09/01

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER  
VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND  
TRADEMARK OFFICE WEBSITE. SEE BELOW:

### Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:  
<http://www.uspto.gov/web/offices/pac/checker>

# Raw Sequence Listing Error Summary

## ERROR DETECTED

## SUGGESTED CORRECTION

SERIAL NUMBER: 09/954773

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PT

- 1      Wrapped Nucleics  
    Wrapped Aminos  
The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2      Invalid Line Length  
The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3      Misaligned Amino  
    Numbering  
The numbering under each 3<sup>rd</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4      Non-ASCII  
The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5      Variable Length.  
Sequence(s)      contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6      PatentIn 2.0  
    "bug"  
A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s)     . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7      Skipped Sequences  
    (OLD RULES)  
Sequence(s)      missing. If intentional, please insert the following lines for each skipped sequence:  
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
This sequence is intentionally skipped  
  
Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8      Skipped Sequences  
    (NEW RULES)  
Sequence(s)      missing. If intentional, please insert the following lines for each skipped sequence:  
<210> sequence id number  
<400> sequence id number  
000
- 9 ✓ Use of n's or Xaa's  
    (NEW RULES)  
Use of n's and/or Xaa's have been detected in the Sequence Listing.  
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents
- 10      Invalid <213>  
    Response  
Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or Artificial Sequence
- 11      Use of <220>  
Sequence(s)      missing the <220> "Feature" and associated numeric identifiers and responses.  
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12      PatentIn 2.0  
    "bug"  
Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13      Misuse of n  
n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

OIPE



RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/954,773

DATE: 10/09/2001  
TIME: 08:45:40

Input Set : A:\2seqlist.app  
Output Set: N:\CRF3\10092001\I954773.raw

3 <110> APPLICANT: Lighfoot, David A.  
4 Gibson, Paul T.  
5 Merkem, Khalid  
7 <120> TITLE OF INVENTION: Soybean Sudden Death Syndrome Resistant Soybeans,  
8 Soybean Cyst Nematode Resistant Soybeans and Methods of  
9 Breeding and Identifying Resistant Plants  
11 <130> FILE REFERENCE: Sou Illinois 1268/2 Sequence Listing  
C--> 13 <140> CURRENT APPLICATION NUMBER: US/09/954,773  
C--> 14 <141> CURRENT FILING DATE: 2001-09-18  
16 <150> PRIOR APPLICATION NUMBER: 60/035,335  
17 <151> PRIOR FILING DATE: 1997-01-14  
19 <160> NUMBER OF SEQ ID NOS: 20  
21 <170> SOFTWARE: PatentIn Ver. 2.0

# ERRORED SEQUENCES

689 <210> SEQ ID NO: 9  
690 <211> LENGTH: 801  
691 <212> TYPE: DNA  
692 <213> ORGANISM: Glycine max  
694 <400> SEQUENCE: 9  
E--> 695 acgccagtga ngtaatacgc actcctatag ggcgaattgg ccaagtcggc cgagctcgaa 60  
696 ttcgtcgacc tgcagggatc acgctaataa tatattatta atcaactgct tcaatagagt 120  
697 gcacacaccc tatctttcat aaaattacta cactttttta tttttgtaaa aaaaaaccta 180  
698 gaaaaactca ttatgaaaca gatgatgtac tttaaacact ctgtcggcct ctctctctct 240  
699 attatatatt gatttaaatt tattgagaat tatatttttg ttgggtctca ttattatat 300  
700 tttattaatt ggatccgggc cctctagatg cggccgcacg cataagcttg agtattctat 360  
701 agtgtcacct aaatagcttg gcgtaatcat ggtcatagct gtttcctgtg tgaaattgtt 420  
E--> 702 atccgctcac aattccacac aacatacgag ccggaagcat aaagtgtnaa gcctggggtn 480  
E--> 703 cctaataagt gagctaactc acattaattg ccttgcgctc actgcccgtc ttccagtcng 540  
E--> 704 gaaacctgtc ctgccagctg cattaatgaa tcngccaacc cncggggana agcngtttgc 600  
E--> 705 ntatgggcgc tcttncgcgt tectcgctca ntgactcgt gcgctcngtc nttcngntgc 660  
E--> 706 cgcgaaacgg atcancnca tcnaangnng taaatacggg tatccaccna accnngggga 720  
E--> 707 naaccnnga aaaaacatgt nanccaaaag gccnccaaaa ggccangaaa cnttnaaaag 780  
E--> 708 gcccnnttgc ttgnccttnt n 801  
710 <210> SEQ ID NO: 10  
711 <211> LENGTH: 809  
712 <212> TYPE: DNA  
713 <213> ORGANISM: Glycine max  
715 <400> SEQUENCE: 10  
E--> 716 nnnnnnttgt aaacgacgca gtgaatgtat acgaccacta tagggcaatg gccaaagtcgg 60  
717 ccgagctcga attcgtcgac ctgcagggat ctttttatgt tggtagctac tgtaatatca 120  
718 tcttgtaact ttaactttta agtcatactc cttttggact catatataag caaaagagt 180  
719 gtcttgatag tcggacttaa atataagcaa atctaactaa ttttgctcta ttttaacttt 240  
720 tcatttcctaa aacacccttc atttaattct aattctatct ccaataactc ttttttatct 300  
721 atgataacaa gttccaatga aggacatttt agaaataacc ttatttttta tttgagatta 360

*Errored  
Must enumerate n's*

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/954,773

DATE: 10/09/2001

TIME: 08:45:40

Input Set : A:\2seqlist.app

Output Set: N:\CRF3\10092001\I954773.raw

```

722 gtaaaattaa atgatgtgaa ctaactttct taattaatgt gaaattagtt attttttctt 420
723 atatacgagt ccaaaggag taccaaattt cacaaatgta ctaaaatgta ttatatgctt 480
E--> 724 ctttttaatt catctttgct gcatanctac ttagctactg tgctctgacg cggggccctct 540
725 agatgcggcc gcatgcataa gcttgagtat ctatagtgtc cctaaatagc ttggcgatgc 600
E--> 726 atgggtcatag ctgtttccng tgtgaaattg ttatccgctc acaattccac acaacatacg 660
E--> 727 anccggaagc ataaaagtgt taagccnggg gtgcctaag agtgagctaa ctcacattaa 720
E--> 728 ttgcgttgcg ctactgcc gcttccnatt cgggaaactg tcctgncanc tgcattaatg 780
E--> 729 aatcnggcca acccncnggg aaaaggcgg 809
731 <210> SEQ ID NO: 11
732 <211> LENGTH: 810
733 <212> TYPE: DNA
734 <213> ORGANISM: Glycine max
736 <400> SEQUENCE: 11
E--> 737 acngccagtg aattgtaata cgactcctat agggcgaatt ggccaagtgc gccgagctcg 60
738 aattcgtcga cctcgagga tctataatat ttctgacagc taccttttta tttagcttgc 120
739 agaggggctg attttgaga aaacatcatc catggtataa agtccgttta gattccagct 180
740 attgttcaca ttcacccctt acatatgaga ataccctat aagctgaaac taacttttac 240
741 aaacaaacat gcaccgaacc attaaagttt gacttaatat ccggggtata atgaccttaa 300
742 ttcagaaatt cacataaata actaaaagta agttgtattt tatttatgtc tggatttact 360
743 gcacaaacta aacaaaagtt tgtggattta gacataaaaa ataccaatgc tgtgtgaaaa 420
E--> 744 taagaaatgg tgggtcatata gacaagtttc ttttctgttt tctttaaatt gcagtcnaag 480
E--> 745 ccatacangag gttcatgtaa ttaaccaaac tagacgttga cttttggttt tatccttttg 540
746 tagaatagca agcaagtcac tataaatctg gccattggga cagcttagtt taactcccgc 600
E--> 747 cgcaaatctg ttaaaatatt naataataat atcacctaaa atcataattg tcanttcatt 660
E--> 748 ttgttttang ttatatcaat tattattttt taccttacnt cctttataat ntcaatgatg 720
E--> 749 ggacccaaaa aattatcaaa tacnttnaag cnttatttat tattaattaa ncctttaatt 780
E--> 750 ataattaaaa attcnattta attttttaan 810
752 <210> SEQ ID NO: 12
753 <211> LENGTH: 777
754 <212> TYPE: DNA
755 <213> ORGANISM: Glycine max
757 <400> SEQUENCE: 12
E--> 758 anangattcg ncagctattt aggtgacata tagaaatact caagcttatg catgcggccg 60
759 catctagagg gcccgatct ttcggttgaa gcaaaattga agtcttttgc tcatttttat 120
760 caaattcttt aatgaaaagt taattacata aaatatttta gtagaagcaa ttttacacag 180
761 ttattattta aaaaaattac acagttattc aataacaaat tacaatatat tataaggtta 240
762 taataaatat tttaaaattc atataaaaga tgacttatta ataagttgat aatgtaaatt 300
763 ttttacacta ttaactcat tttacgtaat cttagcgaca acatactatt tttttcatga 360
764 aatttacaaa aagctttcaa aaataaaatt attagttgta ccccaaaaat ataaaattat 420
765 tagctatgtt aaaaatttgt gaatttcata aaagaaaaaa atattacagt attatatatt 480
766 aaaattaaat ctcacaataa aaacacgtaa agttatcgtt ttgaattatt agttaagtc 540
E--> 767 ctctgctcgc tatttttctc aactctaccg acagcataaa caggttgctc ccttcntaat 600
E--> 768 aacaatcgtg gctgggaaca aaaatcgttt ttttagaaga atcngaaatc gtattgacgg 660
E--> 769 tgcgttttaa aaagactatc caataatctt cttttaataa cnctgaattt cnccaattct 720
E--> 770 tncncaacgg ttttttggtg cgttntttta aaaaagttt aatttaatta aaatncn 777
772 <210> SEQ ID NO: 13
773 <211> LENGTH: 775
774 <212> TYPE: DNA
775 <213> ORGANISM: Glycine max

```

## RAW SEQUENCE LISTING

DATE: 10/09/2001

PATENT APPLICATION: US/09/954,773

TIME: 08:45:40

Input Set : A:\2seqlist.app

Output Set: N:\CRF3\10092001\I954773.raw

777 &lt;400&gt; SEQUENCE: 13

```

E--> 778 atncccnagc tattaggtga cactatagaa tactcaagct tatgcatgcg gccgcatcta 60
E--> 779 gagggcccg atccaattaa taaaatataa taaatgagac caacnaaaat atattctcna 120
E--> 780 taaatttnaa tccatatttt antaaaaaaa aaaaggccna caaattntta aaattcctnc 180
E--> 781 nncnntttca tantnatttt tcctaggttt tttattncaa aanttaaaaa ttntattant 240
E--> 782 tttatnaaaa atagggtntn tgcacnctat tgaaccantn nattaataat atatctttan 300
E--> 783 cntnatccct caaggtcaac aaanttcana ncncggccna cttggccaat tcncctata 360
E--> 784 gtgantcntn ttacaactca ctggccgctcg ttttacaacc tegtgactgg gaaanccctg 420
E--> 785 gcgttcccca anttaatcnc cttgcaacat ntcccctttc gccngctggt gttnataccn 480
E--> 786 aaaaggcccg cnccgatcgc ccttcccnac ttttgccccc cctnaatggc naatggacgc 540
E--> 787 cctgttnccg ngcncattan ncgcggcggtg tgtgggtggtt acccccacnt gaccctacac 600
E--> 788 ttgccagccc cctaaccnccn cccctttcgc tttctccccc ccttttctcg ccncttcgcc 660
E--> 789 ggnttccent caagcnctaa atcggggctc ccttttaggtg tccnaattaa ttgctttacg 720
E--> 790 gccctccacc ccaaaaactt gataagggtg atggtcnent tctggggcnn ccccn 775

```

792 &lt;210&gt; SEQ ID NO: 14

793 &lt;211&gt; LENGTH: 796

794 &lt;212&gt; TYPE: DNA

795 &lt;213&gt; ORGANISM: Glycine max

797 &lt;400&gt; SEQUENCE: 14

```

E--> 798 acntgattca ccaagctatn taggtgacta tagaatactc aagcttatgc atgcgggccgc 60
799 atctagaggg cccggtacag agcacagtag ctaagtagct atgcagcaaa gatgaattaa 120
800 aaagaagcat ataatacatt ttagtacatt tgtgaaatth ggtactccct ttggactcgt 180
801 atataagaaa aaataactaa tttcacatta attaagaaaag ttagttcaca tcatttaatt 240
802 ttactaatct caaataaaaa ataaggttat ttctaaaatg tccttcattg gaacttggtta 300
803 tcatgaataa aaaagagtta ttggaaaatg aattagaatt aaatgaaggg tgttttagga 360
804 atgaaagtat taaataggac aaaattagtt agatttgctt atatttaagt ccgacataca 420
E--> 805 agaccactct tttgcttata tatgagtcca aaggaggatg gacttaaaaag ttnaaagtnc 480
806 aagatgatat tacagtatgt accaacataa aaagatccct cgagggtcgac gaattcgagc 540
807 tcggccgact taggccaattc ccctatagtg agtcgtatta caattcactg gccgtcgttt 600
E--> 808 tacaacgtcn tgactgggaa aacctggcgt tccccactta tcgccttgca gcacatcccc 660
E--> 809 tttgcgcngc tggcgtntta ccaaaaaggc cgcaccgatc gcccttcccn acagttgccc 720
E--> 810 canctgaat ggcgaaatgg acccccctgt taccggccca tttaaacccc gnnnggtggt 780
E--> 811 gtggttnccc cncnccn 796

```

813 &lt;210&gt; SEQ ID NO: 15

814 &lt;211&gt; LENGTH: 782

815 &lt;212&gt; TYPE: DNA

816 &lt;213&gt; ORGANISM: Glycine max

818 &lt;400&gt; SEQUENCE: 15

```

819 attacgccaa gctattaggt gacactatag aaatactcaa gcttatgcat gcggccgcat 60
820 ctagagggcc cggatctttt attaaaaatt taattgagtc tcttaattat tgaaaagtth 120
821 aattaaatca tcaattatta aaaaaaatca accatatcct ttattgttta aaacattata 180
822 attatgctct ttcaaccaac tctgttagtt taattgatag aagttttgta aatagatatt 240
823 tttacataat ataaataatc tttttacata tattgcagcc aatgtaaaaa attatctttt 300
824 tacattcatt gcttttgatg taaaaaatta ttgttttaca tatgttgat tgacaataaa 360
825 tataaaaaata tttatttttg tcaatttagt taatgaactg atgatgaaaa agatataatt 420
826 ataataatttt taataattag agaatttgat tgaacttttt aataattaaa aaattaaatg 480
827 aatttttaat tataattaaa gggattaatt atatatataa gctttaatgt atttataatt 540
E--> 828 tttggtgtcc ncattaatat tataaaagga tgtaagtaaa aaataataat taatattaca 600
829 taaacaaaat aaaatgacaa tattatttag tgatattatt attaatattt taaacaaatt 660

```

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/954,773

DATE: 10/09/2001  
TIME: 08:45:40

Input Set : A:\2seqlist.app  
Output Set: N:\CRF3\10092001\I954773.raw

```

E--> 830 ncngcggagt taactaaagc tgtccaatgg ncagattata atgactgcct gcnattctnc 720
E--> 831 aaaaggataa aacaaaagtc cacgtctagt ttgggtaaat acatgaacct ccngaattgc 780
      832 tt 782
      834 <210> SEQ ID NO: 16
      835 <211> LENGTH: 801
      836 <212> TYPE: DNA
      837 <213> ORGANISM: Glycine max
      839 <400> SEQUENCE: 16
      840 acatgattac acaagctatt taggtgacat atagaatact caagcttatg catgcggccg 60
      841 catctagagg gcccgatcg cccctcccaa cagttgcgca gcctgaatgg cgaatggacg 120
      842 cgccctgtag cggcgcatta agcgcggcgg gtgtgggtgg tacgcgcagc gtgaccgcta 180
      843 cacttgccag cgccctagcg ccgcctcctt tcgctttctt ccttccttt ctcgccacgt 240
      844 tcgcggcgtt tccccgtcaa gctctaaatc gggggctccc tttagggttc cgatttagtg 300
E--> 845 ctttacggca cctcgacccc aaaaaacttg attagggtga tggttcacgt antgggccat 360
E--> 846 cgccctgata gacngttttt cgccctttga cnttggagtc cacgttcttt aatagtggac 420
      847 tcttgttcca aactggaaca aactcaacc ctatctcggt ctattctttt gatttataag 480
E--> 848 ggattttgcc gatttcggcc tatttggttaa aaaatgagct gatttaacaa aaatttnacg 540
E--> 849 cgaattttta caaaaatatt aacgcttacn atttctgat ncggtatttt ctccttacnc 600
E--> 850 atctgtncgg tatttccacc gcatatggtg cactctcaat acaatctgct ctgatccnca 660
E--> 851 taatttaanc canccccgaa acccgcccaa cacccttaa aacnccctta acgggcttgt 720
E--> 852 ntgctcccg catccgctta acaanaaac ttttaaactg ntcccggaac ngcatntttt 780
E--> 853 naaagttttc accncctcc c 801
      855 <210> SEQ ID NO: 17
      856 <211> LENGTH: 798
      857 <212> TYPE: DNA
      858 <213> ORGANISM: Glycine max
      860 <400> SEQUENCE: 17
E--> 861 acatgattac gccaaactat taggtgacac tatanaatac tcaagcttat gcatgcggcc 60
      862 gcatctagag ggcggatcg gccctcccaa acagttgcgc agcctgaatg gcgaatggac 120
E--> 863 ggcgcctgta ggcggcatt aagcgcggcg ggtgtggtgg ttacgcncan cgtgaccgct 180
      864 acacttgcca ggcgcctagc gccgcctcct ttcgctttct tcccttcctt tctgcgacg 240
      865 ttgcggcgtt tccccgtcaa agctctaaat cgggggctcc ctttagggtt ccgatttagt 300
E--> 866 gctttacggc acctcnaccc cnaaaaactt gattagggtg atggttcacg tattgggcca 360
E--> 867 tcnccctgat agacagtttt tcgccccttg acgttggagt ccacgttctt taatattgga 420
      868 ccttgttcca aactggaaca aactcaacc ctatctcggt ctattctttt gatttataag 480
E--> 869 ggattttgcc natttcggcc natnggttaa aaaatgagct natttaacna aaatttaacg 540
E--> 870 cgaattttta caaaaatatt aancttacia tttcctnatg cgggtatttt ctccttacnc 600
E--> 871 atctgtgagg tattttacaa ccgcatatgg tgccctctcaa ttacnanntg ctctgaatgc 660
E--> 872 cgcataatttt aaaccaacnc ngaaancccn tccaannacc cnettaancg ccccgaaacg 720
E--> 873 gttgntctgc ccngcatcc cttannaac aacttttaac cttctcctgg aacttcnntt 780
E--> 874 tttnaaagg ttcnccn 798
      876 <210> SEQ ID NO: 18
      877 <211> LENGTH: 796
      878 <212> TYPE: DNA
      879 <213> ORGANISM: Glycine max
      881 <400> SEQUENCE: 18
E--> 882 acggnntntg aatngttatt taggtgacac tatagaaata ctcaagctta tgcatgcggc 60
E--> 883 cgcactcaga gggcccgat ccaccccgtc ttccactgtt cgttactacg cgagcatcnc 120
      884 ggccctccac caccocgaca agatacttgg ccattggaat tcataacca tcagcctgtc 180

```

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/954,773

DATE: 10/09/2001  
TIME: 08:45:40

Input Set : A:\2seqlist.app  
Output Set: N:\CRF3\10092001\I954773.raw

```

      885 ccacgtccct tgtgtattct ggactctaaa ctcgacctct catcatctcc gccaaacaaa 240
E--> 886 ctcgctcctcg tacagtggac gggccaaccc cctgaggata ctacctggga gccntgggtca 300
E--> 887 gaaatncctn acctttacca cctcnaggac aagtggctct cncggggcgac ngatttgatn 360
E--> 888 acngttaccc ggaagatacc cagattgagc ccccacttac taagacnaag cccaacgttn 420
E--> 889 cccctcnaga cctgcttctt gaatgactac nanactgact cnangaagaa gctccaacca 480
E--> 890 ttngttncn aagttattag ggtngttacc caattagttt agaacgttnt tccgttgaaa 540
E--> 891 aggtcatgt tacccectc ncnmtttttt aatncttgaa tanatnatta agaaggcctg 600
E--> 892 ccnnaggtta cnttactccc tcccncctct ctanatttcc tntangaagc tgccttccc 660
E--> 893 cnaaattagg ggcattctc ttcctttccc gtcttttcac tcccctctgc tcttatcnng 720
E--> 894 aattncctt gatnaacccc ccggttttng gatanaattg aattnacccc cttcttgaa 780
E--> 895 aanagaagtt ttttcn 796
      897 <210> SEQ ID NO: 19
      898 <211> LENGTH: 808
      899 <212> TYPE: DNA
      900 <213> ORGANISM: Glycine max
      902 <400> SEQUENCE: 19
E--> 903 acggcagtg ntgtaatncg actcactata gggcgaattg gccaaagtcgg ccgagctcga 60
      904 attcgctcgac ctcgagggat cgccgaagta tgcactcaac tatcagaggt agttggcgctc 120
E--> 905 atcgagcgcc atctcgaacc gacgttgctg gccgtacatt tgtacngctc cgcngtggat 180
E--> 906 ggcggcctga agccacacng tgatattgat ttgctgggta cngtgaccgt aaggcttgat 240
E--> 907 gaaacnacgc ggcgagcttt gatccacnat gcccatnacc nagagtagac cagaatctaa 300
E--> 908 cacnaatcnc attgtcngat ataacnaaat gctttttaac acgagtgtt cccctnacan 360
E--> 909 tgtagattt gageccanct cctttctcaa tgatacatnc aggatgaacn ntttgacatn 420
E--> 910 nctccacena tttggnagtc tcatgcacca ccacattccc ncagtatgtt tgaaggctent 480
E--> 911 tggecngttc ccttananaa atattctctc gccnmttcag gttgantctc attccnnaaa 540
E--> 912 atatateccc ttgtccattt ccactctncaa ttctntctgt tngaaagaac ntttgcttcc 600
E--> 913 agentttctc ccaaancnat ttttnggaaa cctctgttt tcnagaagaa tgggttcanc 660
E--> 914 tccaattctn tccattccna aggggttcc ccactttaac cccgnatnan caaccaagg 720
E--> 915 gaattgaaaa aacgggaaag ggaaaaaat ngggcctact tncaggga nggcgcccc 780
E--> 916 tcaagnaat ttncaaagaa gnananaa 808
      918 <210> SEQ ID NO: 20
      919 <211> LENGTH: 787
      920 <212> TYPE: DNA
      921 <213> ORGANISM: Glycine max
      923 <400> SEQUENCE: 20
E--> 924 ngncgacgcc ngtgnatgac cactataggg cgaattggcc aagtcggccg agctcgaatt 60
      925 cgtcgacctc gagggatcta tatataggct tgctaagggg agagagagga agactagaga 120
E--> 926 tttggatcna caatgccaat aacaaagagt tnaccagaat cnaacacaaa tencattgtc 180
E--> 927 ngatataaca aaatgctttt taacacgagt gcttcacata acagtgttag atttgagccc 240
E--> 928 aactccttcc tcaatgatac atccnggatg gaccaatttg acatgcatca ccnatttggc 300
E--> 929 agtctcatgc acaaccacat tcccacant atgtntgang gtcattggcc ngttcactaa 360
E--> 930 ganaattatt cctccccagt tcangtnag tctcantcen naaatatagt cctttgtcc 420
E--> 931 natttccntc tnaaatcctt cctgtggaaa gaccattgca tncagcttcc tatcngaaac 480
E--> 932 aatatttgga aacccctctg tcttccaaga aatnggtgtc cctcnattc tntccatac 540
E--> 933 cnaagggttc atccagttta cctgatttag ancnaaggg agtggaana ccgggaaagg 600
E--> 934 aanaaatng gccnaattcc aaggaaggcc cctccntnag aaaatttga gagagagaga 660
E--> 935 agagtctctt nacctttgcc tgctcntta tattantcca gtnttatncc cncnanggtg 720
E--> 936 gttaccnaan ccttttccnc cnaatacngt ctactaatt tggtagtacc cncncccttn 780
E--> 937 gtaccan 787

```

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/954,773

DATE: 10/09/2001

TIME: 08:45:41

Input Set : A:\2seqlist.app

Output Set: N:\CRF3\10092001\I954773.raw

L:13 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:286 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:287 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:288 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:290 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:292 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2  
L:341 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:386 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:388 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4  
L:413 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5  
L:419 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5  
L:420 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5  
L:528 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:529 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:530 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:531 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:533 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:534 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:536 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:589 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7  
L:590 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7  
L:591 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7  
L:683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8  
L:695 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:9  
M:340 Repeated in SeqNo=9  
L:716 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:10  
M:340 Repeated in SeqNo=10  
L:737 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:11  
M:340 Repeated in SeqNo=11  
L:758 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:12  
M:340 Repeated in SeqNo=12  
L:778 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:13  
M:340 Repeated in SeqNo=13  
L:798 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:14  
M:340 Repeated in SeqNo=14  
L:828 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:15  
M:340 Repeated in SeqNo=15  
L:845 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:16  
M:340 Repeated in SeqNo=16

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/954,773

DATE: 10/09/2001

TIME: 08:45:41

Input Set : A:\2seqlist.app

Output Set: N:\CRF3\10092001\I954773.raw

L:861 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:17  
M:340 Repeated in SeqNo=17  
L:882 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:18  
M:340 Repeated in SeqNo=18  
L:903 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:19  
M:340 Repeated in SeqNo=19  
L:924 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:20  
M:340 Repeated in SeqNo=20